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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
1200 Sixth Avenue
Seattle, Washington 98101

September 29, 1995

In Reply
Refer To: HW-113

Mr. Robert L. Geddes
Senior Environmental Engineer
Monsanto Chemical Company
P.O. Box 816
Soda Springs, ID 83276

Subject: Revised Draft Phase II Feasibility Study
Development and Screening of Remedial Alternatives

Dear Mr. Geddes:

The purpose of this letter is to provide the U.S. Environmental Protection Agency's (EPA) comments on Monsanto's August 31, 1995, Draft Phase II Feasibility Study Development and Screening of Remedial Alternatives (DSRA). The document was largely well done, and most of EPA's comments on the first draft were adequately addressed in the revised DSRA. Enclosed are comments on key issues or portions of the text that were not completely or clearly addressed. With the changes discussed in the comments, the DSRA should provide a solid foundation for completion of the Comparative Analysis and focussed Feasibility Study (FS) for the Monsanto site.

Based on the DSRA and our meeting September 13, 1995, EPA understands that Monsanto will proceed with the Comparative Analysis Report upon receipt of EPA's comments and submit final revisions to the DSRA along with the Comparative Analysis in an integrated Phase III FS. The Phase III FS is intended to be the final phase of the FS. In accordance with that understanding and the March 19, 1991, Administrative Order on Consent (AOC) between EPA and Monsanto, the DSRA is approved with the changes specified in the enclosed comments. Monsanto should respond by:

1) providing a letter to EPA by October 17, 1995 acknowledging these comments and describing the changes that will be reflected in the Phase III FS reports;

2) proceeding with the Comparative Analysis Report/Phase III FS, and,

3) making the changes in the Phase III FS reports, which are due to EPA on or before December 5, 1995.

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That due date is based on the schedule for the Comparative Analysis Report specified in the AOC. The AOC requires Monsanto to make a presentation to EPA on the Comparative Analysis within 45 days of approval of the DSRA, and to submit the Comparative Analysis Report within 20 days of that presentation. Thus Monsanto should schedule the presentation (in Seattle) no later than November 13, 1995, and the integrated Phase III FS is due to EPA by Tuesday December 5, 1995 (Thanksgiving Day was not counted).

Monsanto's continued efforts to focus the FS and complete it while addressing the requirements of CERCLA and the AOC are acknowledged and appreciated. EPA will make every effort to work with you to complete the FS in a timely manner, including participating in any additional conference calls or meetings you request, subject only to government travel limitations.

EPA will expect a written response to this letter no later than October 17, 1995. If you have any questions about the letter or comments please call me as soon as possible at (206) 553-2100.

Sincerely,

Timothy H. Princefield
Superfund Site Manager

Enclosure

cc: Gordon Brown, IDHW
Mike Thomas, IDHW
Catherine Krueger, EPA Superfund Unit Chief
Charles Ordine, EPA Associate Regional Counsel

**Comments/Changes Included in the Approval of the Development and Screening of Remedial Alternatives Memorandum Prepared for the Monsanto Company by Montgomery-Watson, August 1995.**

General Comments

1. Monsanto's commitment to close the facility responsibly in accordance with the applicable laws and regulations at that time, if and when it closes, (page 1-1 and August 28, 1995, letter from Kent Lott), is accepted for this FS in lieu of evaluating remedial alternatives to address potential risks under changed future conditions. EPA's preferred alternative in the proposed plan will include Monsanto's commitment as the means to address future potential site risks, with the explanation that other alternatives were not evaluated. Since this plan will not allow for unrestricted use of the site, in accordance with the NCP the proposed plan will also include periodic ("Five-year") reviews to ensure that site use and conditions have not changed.

2. The remedial action objectives (RAO) language presented in Section 2 of the DSRA is now consistent with the approved RAO Memorandum dated June, 1995.

3. Comments about the relative contributions of on-site sources and the need to address all sources have been adequately addressed in the revised DSRA.

4. The basis for the background UTL concentrations in the DSRA was adequately explained with the additional information provided to EPA. It should be included in the Phase III FS.

5. The DSRA does not focus on the 1 x $10^{-4}$ risk level as required by EPA's earlier comments and guidance, which included the following:

> "EPA acknowledges that under some circumstances, $5x10^{-4}$ risk levels have been and can be used to set cleanup goals. Therefore, the "5x" values may be provided <u>in addition to</u> the "1x" values to inform the reader, but until or unless additional direction is given the "1x" values <u>must</u> be calculated, provided in the text, and used as the main focus of the DSRA/FS."

The DSRA/Phase III FS must evaluate cleanup to the TCL-4 level, defined to equal the $1x10^{-4}$ level, as well as cleanup to the TCL-6 level (as defined in the DSRA). Corresponding changes should be made throughout the text (including Figure 1-11; Table 2-4; and page 3-7, Section 3.1.2, some of which are discussed in later comments).

Information on cleanup to the $5x10^{-4}$ level should also be included. To maintain focus, the $1x10^{-4}$ and $5x10^{-4}$ levels should be addressed in a single alternative, if possible.

6. The DSRA now addresses radionuclides, and in general does so adequately. However, the comparison of soil data to the UMTRCA-based site-specific soil standard in Section 2.1.2 is incomplete and confusing to those familiar with other RI soil data used in the risk assessment. In the Phase III FS, the text should be expanded to reference the 0-1" data (which included concentrations for radium-226 as high as 13 and 12 pCi/g) and its relationship to the 0-6" data. It should then explain why the 0-6" data averaged over a $100^2$-meter area is the appropriate data to use, before concluding whether the standard has been met in soils. Alternatives for cleanup of radionuclides in soils to risk-based cleanup goals should continue to be evaluated even if the UMTRCA standard is met.

7. The RAO memorandum concluded that preliminary RAOs were not necessary to protect on-site workers from exposure to contaminants in source piles under current conditions, in part because the same sources were to be addressed by the RAOs and evaluation of remedial alternatives for off-site soils. This concept should not be lost; instead the Phase III FS should describe which/how alternatives would reduce risks to workers as well as migration to off-site soils.

8. EPA accepts the general conclusion that past practices and emissions pre-dating the current, more efficient emission controls appear to have been a much more significant source of the contaminants in off-site soils than fugitives from on-site source piles under current practices. EPA also concurs with the decision to continue evaluating remedial alternatives for on-site source piles, since fugitive emissions will continue to be a source to off-site soils and a pathway for exposure and risk to on-site workers without further action. It is not clear, however, how the effectiveness of different alternatives will be evaluated (and, if necessary, measured) given the decision on page 2-4 in Section 2.2 not to propose PRGs or TCLs for on-site source materials. This must be clarified in the response letter and the Phase III FS. See also the next comment.

9. The DSRA mentions actions to meet other regulatory requirements that could address some of the same pathways and concerns as the RAOs (e.g. evaluation of dust suppressants for source piles to satisfy Title V of the Clean Air Act). As at other sites, there may be several ways to address such issues and still meet CERCLA requirements. One way would be to document those actions Monsanto is required to take even if no CERCLA remedial action is required as "ongoing actions to meet other regulatory requirements" immediately before the No Action Alternative. Those ongoing actions could then be considered in conjunction with all alternatives, including No Action. Where that was done at Kerr-McGee, the selected remedy

acknowledged the ongoing actions and established performance standards to confirm their success, but did not specifically include the ongoing actions as part of the CERCLA selected remedy. Monsanto should proceed with that option or offer an alternative way to present this information in the FS.

10. The revised DSRA adequately addressed EPA's comments about contaminated groundwater zones beneath the site. However, the text and rationale presented for screening groundwater remedial alternatives still does not fully document how treatment was evaluated in accordance with the NCP and deemed infeasible. The response to these comments and Phase III FS should include:
    a) references to modeled predictions of the length of time required for contaminants to naturally attenuate below levels of concern from the RI; and,
    b) some discussion (and, if available, order-of-magnitude estimates) of the cost and predicted effectiveness of treatment under current conditions at this site.

    Comments 23-26 describe specific changes that are required to accomplish this; corresponding changes should be made elsewhere in the text where necessary.

11. Chapter 4 concludes with a statement that 12 alternatives (consisting of five basic alternatives plus variations) are retained for further evaluation (page 4-24). At our subsequent meeting, Monsanto suggested further focussing on a subset of the recommended alternatives. While continued focussing of this FS is encouraged and not all 12 variations require detailed evaluation in order to provide sufficient information to make remedial decisions, EPA does not concur with Monsanto's recommendation to focus primarily on the 5 x $10^{-4}$ cleanup level.

    Monsanto should proceed with the Phase III FS and evaluate Alternatives 1, 2, 4, 5, and 8 against the NCP criteria **using at least these two cleanup goals: $1x10^{-4}$ (TCL-4) and TCL-6 (the greater of $1x10^{-6}$ or background).** Localized ecological concerns should be addressed as part of TCL-4 per comment #21. Reuse/recycling should be discussed in the context of alternatives 4, 5, and 8 where potentially feasible. See also comment #5.

**Specific Comments**

12. Page 1-20. The text should be revised (here or elsewhere) to clarify the fate of contaminants in groundwater pumped by the production wells and used in the process.

13. Page 1-28, Section 1.4.4. EPA concurs with Monsanto's conclusion that no further RI/FS sampling is needed but notes that future monitoring requirements will depend on the

remedy selected.

14. Page 1-30, Section 1.4.4.4. The first paragraph states that Molybdenum was either not measured in groundwater samples or was measured at low concentrations. It might be more accurate to say Molybdenum was not detected or was detected at low levels.

15. Page 1-33, first paragraph, and Page 2-4, Section 2.2. The text should be revised to include a reference to Table 3-2.

16. Figure 1-11. In accordance with comment #5, an additional or modified figure presenting $1 \times 10^{-4}$ risks for comparison should be provided to EPA and added to the Phase III FS.

17. Section 2.1.3, page 2-3. This section should be expanded to include the more complete language from Section 2.3 of the RAO memorandum describing how OSHA requirements are ARARs.

18. Section 2.3, page 2-5, last paragraph; also Table 2-4. The explanation that the $5 \times 10^{-4}$ risk level represents the "upper end ($10^{-4}$) of the risk range" suggested in the RAO memorandum" is inconsistent with specific comments from EPA on the June DSRA (see quote in comment 5) as well as previous EPA explanations and guidance that the point of departure at the upper end of the risk range is $1x10^{-4}$, and that decision-makers need that information as a baseline. The text should be changed in accordance with this and previous comments to state that TCL-4 equals $1 \times 10^{-4}$. If appropriate, it should state that information on cleanup to $5 \times 10^{-4}$ has also been provided and why.

19. Section 2.3, pages 2-5 to 2-6 and Table 2-1. The risk-based TCLs for off-site soils are derived (appropriately) from a proportional analysis of the EPA (January 1995) Risk Assessment results. EPA has confirmed the calculations and values presented in Table 2-1 and Appendix A. However, to assist future reviewers, additional explanation of the methodology should be provided in the Phase III FS.

20. Section 2.3, pages 2-6. The reference to "thallium" in the first full paragraph should be changed to "thorium".

21. Table 2-1. The relevance and derivation of the values presented in Table 2-1 should be presented in more detail. The text should explain what individual PRGs represent; what the UTL of background to which the PRGs are compared represents; and why those are the appropriate comparisons in this case (e.g. why calculate PRGs equal to the incremental risk above average background and then compare them to a different "background").

22. Table 2-3. According to Table 2-1, the entry for uranium-

238 should be 2.9pCi/g; the rationale should read "1 x $10^{-6}$ cancer risk".

23. Section 2.3 and Table 2-4. The assertion that "ecological risks are considered insignificant" at the TCL-4 level does not address the localized ecological concerns discussed in the risk assessment. The statements made regarding ecological risks are not fully consistent with EPA's Risk Assessment. This section, the table and the evaluation of alternatives should acknowledge the localized environmental concerns and address whether/how the alternative(s) under consideration would address them.

24. Page 2-12, last paragraph. In the next to last sentence, replace "address these RAOs" with "appear to have been effective and over time should achieve RAOs. Further discussion of the No Action alternative for groundwater and the effectiveness of other alternatives is presented in sections 3.2.3 and 4.2.1."

25. Section 3.2.3.2, page 3-14. The discussion of groundwater response alternatives should include information from the RI about the predicted natural recovery times for each constituent exceeding RAOs in each groundwater zone. The same information should be referenced in the discussion of the No Action alternative for groundwater (section 4.2.1).

26. Page 3-15, fourth bullet. In the NCP and EPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, the term 'treatment' refers to reduction of the total mass of toxic contaminants, irreversible reduction in contaminant mobility, or reduction of total volume of contaminated media. The 'treatment' of groundwater by evaporation does not fall in the above defined categories for treatment; references to "treatment by evaporation" should be revised to simply say "evaporation".

27. Section 3.2.3.4, pages 3-15 and 3-16. This summary should be changed to be consistent with Comments 8, 23 and 24.

28. Section 3.3.1.5, page 3-21, fourth paragraph. Monsanto recommended that no treatability studies be done for this site, however the DSRA discusses a demonstration project for dust suppressants that is expected to provide information about the effectiveness and feasibility of that alternative for the FS. Monsanto should document if/how results will be incorporated in the RI/FS so they can be factored into remedial decision-making (see also comment 9) and why this is not a treatability study that should be addressed under the AOC.